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1 [Software fault tolerance in real-time embedded systems](#)

 February **CSC '89: Proceedings of the 17th conference on ACM Annual Computer Science Conference 1989**
Publisher: ACM

 Additional Information: [full citation](#), [abstract](#)
Bibliometrics: Downloads (6 Weeks): n/a, Downloads (12 Months): n/a, Downloads (Overall): n/a, Citation Count: 0

Many critical embedded systems which have very high reliability requirements operate in real time. Considering the significance of their applications, design of highly reliable software is a very important research area. In the development of reliable ...

2 [Frontmatter \(TOC, Letters, Philosophy of computer science, Interviewers needed, Taking software requirements creation from folklore to analysis, SW components and product lines: from business to systems and technology, Software engineering survey\)](#)

 September **SI GSOFT Software Engineering Notes**, Volume 30 Issue 5
 2005

Publisher: ACM

 Full text available: (1.98 MB)

 Additional Information: [full citation](#), [index terms](#)
Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 257, Downloads (Overall): 3478, Citation Count: 0

3 [Frontmatter \(TOC, Miscellaneous material\)](#)

 November **SI GSOFT Software Engineering Notes**, Volume 31 Issue 6
 2006

Publisher: ACM

 Full text available: (1.25 MB)

 Additional Information: [full citation](#)
Bibliometrics: Downloads (6 Weeks): 14, Downloads (12 Months): 128, Downloads (Overall): 675, Citation Count: 0

4 [Self-adaptive software: Landscape and research challenges](#)

 May 2009 **Transactions on Autonomous and Adaptive Systems (TAAS)**, Volume 4 Issue 2

Publisher: ACM

 Full text available: (359.11 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)
Bibliometrics: Downloads (6 Weeks): 185, Downloads (12 Months): 1155, Downloads (Overall): 1155, Citation Count: 2

Software systems dealing with distributed applications in changing environments normally require human supervision to continue operation in all conditions. These (re-)configuring, troubleshooting, and in general maintenance tasks lead to costly and time-consuming ...

Keywords: Adaptation processes, research challenges, self-adaptive software, self-properties, survey

5 [Communications of the ACM: Volume 52 Issue 11](#)



November 2009

Communications of the ACM

Publisher: ACM

Full text available: Digital Edition , Pdf (6.64 MB)

Additional Information: [full citation](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 571, Downloads (12 Months): 711, Downloads (Overall): 711, Citation Count: 0

6 [Towards the issues in architectural support for protection of software execution](#)



Weidong Shi, Hsien-Hsin S. Lee, Chenghui Lu, Mrinmoy Ghosh

March 2005 **SI GARCH Computer Architecture News** , Volume 33 Issue 1

Publisher: ACM

Full text available: Pdf (436.30 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 14, Downloads (12 Months): 81, Downloads (Overall): 673, Citation Count: 3

Recently, there is a growing interest in the research community to employ tamper-resistant processors for software protection. Many of these proposed systems rely on a specially tailored secure processor to prevent

1) illegal software duplication, 2) ...

Keywords: attack, copy protection, encryption, security, tamper resistance

7 [Frontmatter \(TOC, Letter from the chair, Letter from the editor, Letters to the editor, ACM policy and procedures on plagiarism, PASTE abstracts, Calendar of future events, Workshop and conference information\)](#)



ACM SIGSOFT Software Engineering Notes staff

January 2006 **SI GSOF T Software Engineering Notes** , Volume 31 Issue 1

Publisher: ACM

Full text available: Pdf (1.82 MB)

Additional Information: [full citation](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 35, Downloads (Overall): 310, Citation Count: 0

8 [Architectural Support for High Speed Protection of Memory Integrity and Confidentiality in Multiprocessor Systems](#)

Weidong Shi, Hsien-Hsin S. Lee, Mrinmoy Ghosh, Chenghui Lu

September 2004 **PACT '04: Proceedings of the 13th International Conference on Parallel Architectures and Compilation Techniques**

Publisher: IEEE Computer Society

Full text available: Pdf (255.33 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 62, Downloads (Overall): 224, Citation Count: 5

Recently there is a growing effort in both the architecture and the security community to create a hardware solution for authenticating system memory. As shown in the previous work, hardware-based memory authentication will become a vital component for ...

9 [Formalizing space shuttle software requirements: four case studies](#)



Judith Crow, Ben Di Vito

July 1998 **Transactions on Software Engineering and Methodology (TOSEM)** , Volume 7 Issue 3

Publisher: ACM Request Permissions

Full text available: Pdf (267.77 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 24, Downloads (12 Months): 170, Downloads (Overall): 1421, Citation Count: 4

This article describes four case studies in which requirements for new flight software subsystems on NASA's Space Shuttle were analyzed using mechanically supported formal methods. Three of the studies used standard formal specification and verification ...

Keywords: flight software, formal methods, requirements analysis, space shuttle, state exploration, theorem proving

10 [Attacks and risk analysis for hardware supported software copy protection systems](#)



Weidong Shi, Hsien-Hsin S. Lee, Chenghui Lu, Tao Zhang

October 2004 **DRM '04: Proceedings of the 4th ACM workshop on Digital rights management**

Publisher: ACM [Request Permissions](#)

Full text available: [Pdf](#) (167.21 KB) [Additional Information: full citation, abstract, references, index terms](#)

Bibliometrics: Downloads (6 Weeks): 11, Downloads (12 Months): 55, Downloads (Overall): 870, Citation Count: 1

<i>Recently, there is a growing interest in the research community to use tamper-resistant processors for software copy protection. Many of these tamper-resistant systems rely on a specially tailored secure processor to prevent, 1) illegal software ...

Keywords: attack, copy protection, tamper resistance

11 [Control-flow integrity principles, implementations, and applications](#)



Martin Abadi, Mihai Budiu, Ulfar Erlingsson, Jay Ligatti

October 2009 **Transactions on Information and System Security (TISSEC)**, Volume 13 Issue 1

Publisher: ACM [Request Permissions](#)

Full text available: [Pdf](#) (1.42 MB) [Additional Information: full citation, appendices and supplements, abstract, references, index terms](#)

Bibliometrics: Downloads (6 Weeks): 48, Downloads (12 Months): 190, Downloads (Overall): 190, Citation Count: 0

Current software attacks often build on exploits that subvert machine-code execution. The enforcement of a basic safety property, control-flow integrity (CFI), can prevent such attacks from arbitrarily controlling program behavior. CFI enforcement is ...

Keywords: Binary rewriting, control-flow graph, inlined reference monitors, vulnerabilities

12 [Secure Embedded Processing through Hardware-Assisted Run-Time Monitoring](#)

Divya Arora, Srivaths Ravi, Anand Raghunathan, Niraj K. Jha

March 2005 **DATE '05: Proceedings of the conference on Design, Automation and Test in Europe - Volume 1**, Volume 1

Publisher: IEEE Computer Society

Full text available: [Pdf](#) (222.67 KB) [Additional Information: full citation, abstract, references, cited by, index terms](#)

Bibliometrics: Downloads (6 Weeks): 5, Downloads (12 Months): 46, Downloads (Overall): 365, Citation Count: 9

Security is emerging as an important concern in embedded system design. The security of embedded systems is often compromised due to vulnerabilities in "trusted" software that they execute. Security attacks exploit these vulnerabilities to trigger unintended ...

13 [Making secure processors OS- and performance-friendly](#)



Siddhartha Chhabra, Brian Rogers, Yan Solihin, Milos Prvulovic

March 2009 **Transactions on Architecture and Code Optimization (TACO)**, Volume 5 Issue 4

Publisher: ACM [Request Permissions](#)

Full text available: [Pdf](#) (1.04 MB) [Additional Information: full citation, abstract, references, index terms](#)

Bibliometrics: Downloads (6 Weeks): 12, Downloads (12 Months): 303, Downloads (Overall): 303, Citation Count: 0

In today's digital world, computer security issues have become increasingly important. In particular, researchers have proposed designs for secure processors that utilize hardware-based memory encryption and integrity verification to protect the privacy ...

Keywords: Secure processor architectures, memory encryption, memory integrity verification, virtualization

14 [Integrating hardware and software information flow analyses](#)



[Colin J. Fidge](#), [Diana Corney](#)

June 2009 **LCTES '09**: Proceedings of the 2009 ACM SIGPLAN/SIGBED conference on Languages, compilers, and tools for embedded systems

Publisher: ACM [Request Permissions](#)

Full text available: [PDF](#) (652.11 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 14, Downloads (12 Months): 114, Downloads (Overall): 114, Citation Count: 0

Security-critical communications devices must be evaluated to the highest possible standards before they can be deployed. This process includes tracing potential information flow through the device's electronic circuitry, for each of the device's operating ...

Keywords: communications devices, embedded software, information security evaluation

Also published in:

June 2009 **SIGPLAN Notices** Volume 44 Issue 7

15 [Using Address Independent Seed Encryption and Bonsai Merkle Trees to Make Secure Processors OS- and Performance-Friendly](#)

[Brian Rogers](#), [Siddhartha Chhabra](#), [Milos Prvulovic](#), [Yan Solihin](#)

December 2007 **MICRO '07**: Proceedings of the 40th Annual IEEE/ACM International Symposium on Microarchitecture

Publisher: IEEE Computer Society

Full text available: [PDF](#) (954.09 KB) Additional Information: [full citation](#), [abstract](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 9, Downloads (12 Months): 47, Downloads (Overall): 132, Citation Count: 2

In today's digital world, computer security issues have become increasingly important. In particular, researchers have proposed designs for secure processors which utilize hardware-based memory encryption and integrity verification to protect the privacy ...

16 [Control-flow integrity](#)



[Martin Abadi](#), [Mihai Budiu](#), [Ólafur Erlingsson](#), [Jay Ligatti](#)

November 2005 **CCS '05**: Proceedings of the 12th ACM conference on Computer and communications security

Publisher: ACM [Request Permissions](#)

Full text available: [PDF](#) (218.60 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 11, Downloads (12 Months): 154, Downloads (Overall): 945, Citation Count: 37

Current software attacks often build on exploits that subvert machine-code execution. The enforcement of a basic safety property, Control-Flow Integrity (CFI), can prevent such attacks from arbitrarily controlling program behavior. CFI enforcement is ...

Keywords: binary rewriting, control-flow graph, inlined reference monitors, vulnerabilities

17 [Architectural support for software-based protection](#)



[Mihai Budiu](#), [Ólafur Erlingsson](#), [Martin Abadi](#)

October 2006 **ASID '06**: Proceedings of the 1st workshop on Architectural and system support for improving software dependability

Publisher: ACM [Request Permissions](#)

Full text available: [PDF](#) (642.62 KB) Additional Information: [full citation](#), [abstract](#), [references](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 8, Downloads (12 Months): 65, Downloads (Overall): 299, Citation Count: 1

Control-Flow Integrity (CFI) is a property that guarantees program control flow cannot be subverted by a malicious adversary, even if the adversary has complete control of data memory. We have shown in prior work how CFI can be enforced by using inlined ...

Keywords: binary rewriting, control-flow graph, control-flow integrity, hardware support, memory protection, security, software fault isolation

18 [Peer-to-peer access control architecture using trusted computing technology](#)



[Ravi Sandhu, Xinwen Zhang](#)

June 2005 **SACMAT '05**: Proceedings of the tenth ACM symposium on Access control models and technologies

Publisher: ACM [Request Permissions](#)

Full text available: [PDF](#) (215.48 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#), [review](#)

Bibliometrics: Downloads (6 Weeks): 28, Downloads (12 Months): 194, Downloads (Overall): 1970, Citation Count: 16

It has been recognized for some time that software alone does not provide an adequate foundation for building a high-assurance trusted platform. The emergence of industry-standard trusted computing technologies promises a revolution in this respect by ...

Keywords: access control, policy enforcement, security architecture, trusted computing

19 [A parallelized way to provide data encryption and integrity checking on a processor-memory bus](#)



[Reouven Elbaz, Lionel Torres, Gilles Sassatelli, Pierre Guillemin, Michel Bardouillet, Albert Martinez](#)

July 2006 **DAC '06**: Proceedings of the 43rd annual Design Automation Conference

Publisher: ACM [Request Permissions](#)

Full text available: [PDF](#) (668.26 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 10, Downloads (12 Months): 65, Downloads (Overall): 319, Citation Count: 2

This paper describes a novel engine, called PE-ICE (Parallelized Encryption and Integrity Checking Engine), enabling to guarantee confidentiality and integrity of data exchanged between a SoC (System on Chip) and its external memory. The PE-ICE approach ...

Keywords: architectures, bus encryption, data confidentiality and integrity

20 [Authentication Control Point and Its Implications For Secure Processor Design](#)

[Weidong Shi, Hsien-Hsin S. Lee](#)

December 2006 **MICRO 39**: Proceedings of the 39th Annual IEEE/ACM International Symposium on Microarchitecture

Publisher: IEEE Computer Society

Full text available: [PDF](#) (619.30 KB)

Additional Information: [full citation](#), [abstract](#), [references](#), [cited by](#), [index terms](#)

Bibliometrics: Downloads (6 Weeks): 3, Downloads (12 Months): 51, Downloads (Overall): 284, Citation Count: 3

Secure processor architecture enables tamper-proof protection on software that addresses many difficult security problems such as reverse-engineering prevention, trusted computing, secure mobile agents by providing a secure computing environment ...

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